

⑤ let Zebas actual age = x years
acc. to condition

$$(x-5)^2 = 5x+11$$

$$\Rightarrow x^2+25-10x = 5x+11$$

$$\Rightarrow x^2-15x+14=0$$

$$\Rightarrow x^2-14x-x+14=0$$

$$\Rightarrow x(x-14) - 1(x-14) = 0$$

$$\Rightarrow (x-14)(x-1) = 0$$

$$\Rightarrow x-14=0, x-1=0$$

$$\Rightarrow x=14, x=1$$

$x=1$ rejected

NCERT Solutions by Dev Anoop Bathinda

[condition not satisfied]

$$\therefore x=14$$

Zebas age = 14 years

⑥ let Nushas age (present)
= x years

Ashas present age = x^2+2

let difference of ages

= y years

acc. to prob

$$x^2+2+y = 10x-1$$

$$\Rightarrow x^2+2+y - 10x+1 = 0$$

But y = diff. of ages

$$= x^2+2-x$$

$$\Rightarrow x^2+2+x^2+2-x-10x+1=0$$

$$\Rightarrow 2x^2-11x+5=0$$

$$\Rightarrow 2x^2-10x-x+5=0$$

$$\Rightarrow 2x(x-5) - 1(x-5) = 0$$

$$\Rightarrow (x-5)(2x-1) = 0$$

$$\Rightarrow x-5=0, 2x-1=0$$

$$\Rightarrow x=5, x=\frac{1}{2}$$

rejected

\therefore Nusha's present age

$$= x$$

$$= 5 \text{ years}$$

Asha's present age

$$= 5^2+2$$

$$= 27 \text{ years}$$